Radiography led to improved patient satisfaction but increased short-term pain in patients with low-back pain


QUESTION
In primary-care patients with low-back pain ≥ 6 weeks of duration, does radiography of the lumbar spine help improve clinical outcomes or satisfaction with care?

DESIGN
Randomized [allocation concealed]*†, unblinded,* controlled trial with 3- and 9-month follow-up.

SETTING
73 general practices in Nottinghamshire, southern Derbyshire, northern Lincolnshire, and northern Leicestershire, England.

PATIENTS
421 patients who were 20 to 55 years of age (median age 39 y, 59% women) and had had low-back pain for ≥ 6 weeks. Exclusion criteria were chronic back pain (> 6-mo duration); radiography of the lumbar spine in the previous year; unexplained weight loss or fever; use of oral steroids; history of malignancy, tuberculosis, injection drug use, or pregnancy, or fever; use of oral steroids; history of malignancy, tuberculosis, injection drug use, or pregnancy; or signs of a cauda equina lesion; or pregnancy.

INTERVENTION
In addition to receiving usual care, patients were allocated to radiography of the lumbar spine (n = 210) or no radiography (n = 211).

MAIN RESULTS
Analysis was by intention to treat. At 3 months, the Roland disability score was higher in the radiography group than in the control group (median score 4 vs 3, P = 0.05), and radiography led to more patients with pain (P = 0.04) (Table). At 9 months, differences were no longer statistically significant for the Roland disability score (median score 3 vs 2, P = 0.06) or pain (P = 0.11) (Table). Patients in the radiography group were more satisfied with their care than were patients in the control group at 9 months (median score 21 vs 19, P < 0.01) but not at 3 months. Of patients who had available findings on radiography, 69% (118 of 170 patients) in the radiography group and 68% (15 of 22 patients) in the control group had abnormalities, which included discovertebral degeneration, deformity, and minor congenital abnormalities.

CONCLUSION
In primary-care patients with low-back pain, radiography in addition to usual care improved patient satisfaction but increased short-term pain and did not improve other clinical outcomes.

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*See Glossary.
†Information provided by author.

Radiography vs no radiography in primary-care patients with low-back pain‡

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Radiography</th>
<th>No radiography</th>
<th>RRI (95% CI)</th>
<th>NNH (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain at 3 mo</td>
<td>74%</td>
<td>65%</td>
<td>14% (0.5 to 31)</td>
<td>11 (6 to 288)</td>
</tr>
<tr>
<td>Pain at 9 mo</td>
<td>65%</td>
<td>57%</td>
<td>14% (~3.0 to 34)</td>
<td>Not significant</td>
</tr>
</tbody>
</table>

‡Abbreviations defined in Glossary; RRI, NNH, and CI calculated from data in article.